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Evaluation of New Canal Point Sugarcane Clones

2001-2002 Harvest Season

ABSTRACT

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Thirty replicated experiments were conducted on 9 farms (representing 5 organic soils and 2 sand soils) to evaluate 48 new Canal Point (CP) clones of sugarcane from the CP 97, CP 96, CP 95, and CP 94 series. Experiments compared the cane and sugar yields of the new clones, complex hybrids of *Saccharum* spp., with yields of CP 70–1133, formerly a major commercial sugarcane cultivar on organic soils and now the third most widely grown cultivar on sand soils in Florida. Each clone was rated for its susceptibility to diseases and cold temperatures.

The audience for this publication includes geneticists, researchers, growers, extension agents, and individuals in industry who are interested in sugarcane clone development.

Keywords: Histosol, muck soil, organic soil, *Puccinia melanocephala, Saccharum* spp., stability, sugarcane cultivars, sugarcane rust, sugarcane smut, sugarcane yields, sugar yields, *Ustilago scitaminea*.

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CONTENTS

EVALUATION OF NEW CANAL POINT SUGARCANE CLONES

2001–2002 Harvest Season

B. Glaz, J.C. Comstock, P.Y.P. Tai, R. Gilbert, J.D. Miller, S.J. Edme, and Joe Davidson

Clonal selection at precommercial stages supports the commercial production of sugarcane, complex hybrids of *Saccharum* spp. Although production of sugar per unit area is a principal selection characteristic, it is not the only factor on which sugarcane is evaluated. In addition, analyses are made on the concentration of sugar and on the fiber content of the cane. Since sugar yield is not the only economic factor on which sugarcane yields are judged, several clones with high yields of sugar per hectare have never become commercial cultivars. Each clone has an economic index that combines its harvesting, transportation, and milling costs with its expected returns from sugar production. Deren et al. (1995) developed an economic index for clonal evaluation in Florida.

The time of year and the duration that a clone yields its highest amount of sugar per unit area can be very important, since sugarcane harvest seasons

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extend from fall to spring. Because sugarcane is commercially grown in plant and ratoon crops, clones are evaluated accordingly. Adaptability to mechanical harvesting and mechanical seed cane cutting are important traits in Florida.

Information about the stability of a clone's performance aids in selecting clones that will yield well across all or many environments. Stability measurements also enable identification of clones that will perform well only in some environments. This stability factor is important in our evaluations because of the range of environments for growing sugarcane in Florida. As differences widen for such characteristics as temperature, moisture, and soil, region-specific clones become necessary because few clones produce high yields in markedly different environments. Glaz and Miller, et al. (2002) reported that performance of clones between the final two stages of the selection program at Canal Point was generally stable.

Clones with desired agronomic characteristics also must be productive in the presence of harmful diseases, insects, and weeds. Some pests rapidly develop new, virulent races or strains. Because of these changes in pathogen populations, clonal resistance cannot be considered permanent. The selection team must try not to discard clones that have sufficient resistance or tolerance to pests, but it also must discard clones that are too susceptible to pests to be grown commercially.

The disease that has caused the most difficulty in Florida in selecting resistant sugarcane cultivars has been sugarcane rust, caused by *Puccinia melanocephala* Syd & P. Syd. Florida sugarcane growers and scientists have had the most success in selecting resistant cultivars for sugarcane smut, caused by *Ustilago scitaminea* Syd and P. Syd. Other diseases they must contend with are leaf scald, caused by *Xanthomonas albilineans* (Ashby) Dow, yellow leaf virus, a disease caused by a luteovirus (Lockhart et al. 1996); and sugarcane mosaic. Ratoon stunting disease

(RSD), caused by *Clavibacter xyli* subsp. *xyli Davis, Gillaspie, Vidaver, and Harris*, has probably been the most damaging, although the least visible, sugarcane disease in Florida. A program to improve resistance of the population of CP clones to RSD is underway (Comstock et al. 2000).

Sugarcane growers in Florida rely much more on tolerance than resistance to sugarcane diseases. In the 2001 growing season, ten cultivars comprised 65 percent of Florida's sugarcane (Glaz 2001). Each of these ten cultivars,CL 61–620, CP 70-1133, CP 72–2086, CP 73–1547, CP 78-1628, CP 80–1743, CP 80–1827, CP 84-1198, CP 88-1762, and CP 89-2143 was susceptible to one or more of the following sugarcane diseases: rust, mosaic, leaf scald, smut, or RSD. Glaz et al. (1986) presented a formula and procedure to help growers distribute their available sugarcane cultivars while considering possible attacks of new pests.

Some growers minimize losses from RSD by using disease-free planting material. This can be accomplished by using hot-water therapy to remove RSD from existing seed cane or by using disease-free planting material derived from meristem tissue culture. Scientists at Canal Point screen clones in their selection program for resistance to rust, smut, leaf scald, mosaic, RSD, and eye spot caused by *Bipolaris sacchari (E.J.* Butler) Shoemaker. Eye spot is not currently a commercial problem in Florida.

Damaging insects in Florida of long duration are the sugarcane borer, *Diatraea saccharalis* (F.); the sugarcane wireworm, *Melanotus communis*; and the sugarcane grub, *Ligyrus subtropicus*. An insect discovered in Florida in 1990,

the sugarcane lace bug, *Leptodictya tabida* (Hall 1991), has also become a pest, selectively feeding on some clones. In 1994, another insect pest new to commercial sugarcane fields in Florida was found--the West Indian cane weevil, *Metamasius hemipterus* (L.) (Sosa, 1995).

Geneticists at Canal Point are working to incorporate borer resistance into the breeding program by selecting for leaf pubescence (a trait known to promote resistance)in elite sugarcane clones (Sosa, 1996). Currently, there are no known commercial sugarcane cultivars with pubescent leaves. In addition, the heritability of resistance to sugarcane borers is sufficiently high among commercial quality cultivars that improvements in this characteristic are possible (White et al., 2001).

There are often winter freezes in the region of Florida where much of the sugarcane is produced. The severity and duration of a freeze and the specific sugarcane cultivar are the major factors that determine how much damage occurs. The damage caused by such freezes ranges from no damage to death of the mature sugarcane plant. The rate of deterioration of juice quality after a freeze depends on the ambient air temperature; the warmer the temperature, the more rapid the deterioration in juice quality will be of plants that have been exposed to freezing temperatures. Freezes also damage young sugarcane plants. Stalk populations may decline after severe freezes kill aboveground parts of recently emerged sugarcane plants. Tai and Miller (1996) reported that resistance to a light freeze (-1.7° C to −2.8° C) was not significantly correlated to fiber content, but resistance to a moderate freeze (−5.0° C) was positively correlated to fiber content.

Each year at Canal Point, up to 100,000 seedlings are evaluated from crosses derived from a diverse germplasm collection. (However, reports from Deren (1995) contend that the genetic base of U.S. sugarcane breeding programs is too narrow.) This

year, most of the parental clones in our program originated from Canal Point. In addition, clones used as parents this season came from Louisiana, Texas, India, Indonesia, the Phillippines, and the People's Republic of China. Also, we used several feral *Saccharum officinarum* and *Saccharum spontaneum* clones and interspecific hybrids of these clones as parents.

About 24 percent of 50,000 seedlings from the seedling stage were advanced to the stage I phase in 2002 where about 12 percent of the 12,000 clones are expected to be advanced to stage II. The 1,760 clones in stage II were visually selected in the seedling and stage I phases. Once selected as seedlings, clones are vegetatively propagated. From this stage on in the selection program, each plant (clone) is genetically identical to its precursor, assuming no mutations. From these 1760 clones in stage II, about 130 are selected for continued testing in replicated experiments. Each of the first three stages, seedling, stage I, and stage II are evaluated for 1 year in the plant-cane crop at Canal Point. The primary selection criteria for stage II and all subsequent stages are sugar yields, sugar content, cane tonnage, and disease resistance.

The stage III clones are evaluated for 2 years, in the plant-cane and first-ratoon crops, at four locations, all in commercial sugarcane fields. Until last year, the 11 most promising clones received continued testing for 4 more years in the stage IV experiments. Beginning with the 2000 planting season, the number of clones advanced from stage III to stage IV was increased to 14 based on conclusions of Brown and Glaz (2001). Tai and Miller (1989) also described this selection program from the seedling to the stage IV phase. Clones that successfully complete these experimental phases undergo 2 to 4 years of evaluation and seed-cane increase by the Florida Sugar Cane League, Inc., before commercial release. Some of this evaluation occurs concurrently with the evaluations described here.

Clones with characteristics that may be valuable for sugarcane breeding programs

are identified throughout the selection process. Sugarcane geneticists in other programs often request clones from Canal Point. From May 2001 to April 2002, CP clones or seeds were requested from and sent to Australia, Brazil, Costa Rica, Dominican Republic, France, Guatemala, Honduras, Mauritius, Mexico, Nicaragua, Nigeria, Pakistan, and Venezuela. Alabama, California, Hawaii, Louisiana, Mississippi, North Carolina, Ohio, Texas, and West Virginia, and five other locations in Florida also received CP clones.

The purpose of this report is to summarize the tonnage and sugar yields of the clones in the plant-cane, first-ratoon, and second-ratoon stage IV experiments sampled in Florida's 2001–2002 sugarcane harvest season.

TEST PROCEDURES

In 30 experiments, 48 new CP clones (14 clones of the CP 97 series in the plant-cane crop at 7 farms, 1 clone of the CP 97 series at 2 farms, 11 clones of the CP 96 series in the plant-cane and first-ratoon crops at 9 farms, 10 clones of the CP 95 series, 1 clone of the CP 94 series in the first- and second-ratoon crops, and 11 clones of the CP 94 series in the second-ratoon crop) were evaluated.

CP 70–1133 was the reference clone in all 30 experiments. CP 70-1133 was the third most widely grown cultivar on sand soils, but only a minor cultivar on organic soils in Florida (Glaz, 2002). Overall, CP 70-1133 was the 10th most widely grown sugarcane cultivar in Florida in the 2001-2002 harvest season, though for several years was the most widely grown cultivar in Florida.

The second-ratoon experiments at A. Duda and Sons', Inc. (Duda) southeast of Belle Glade and Wedgworth Farms, Inc. (Wedgworth) were conducted on Dania muck soils. As described by McCollum et al. (1976), Dania muck is the shallowest of the organic soils comprised primarily of decomposed sawgrass (*Cladium jamaicense* Crantz) in

the Everglades Agricultural Area. The maximum depth to the bedrock in a Dania muck is 51 cm. The other organic soils similar to Dania muck are Lauderhill (> 51 and ≤ 91 cm depth to bedrock), Pahokee (> 91 and ≤ 130 cm depth to bedrock), and Terra Ceia mucks (organic layer > 130 cm).

The first-ratoon and the CP 97 plant-cane experiments at Okeelanta Corporation (Okeelanta) south of South Bay were conducted on Lauderhill muck soils. Also, the plant-cane and first-ratoon experiments at Duda, the plant-cane experiment at Knight Management, Inc. (Knight), southwest of 20-Mile Bend, the plant-cane and second-ratoon experiments at Sugar Farms Cooperative North--SFI Region S05 (SFI) near 20-Mile Bend in Palm Beach County, as well as the plant-cane and first-ratoon experiments at Wedgworth were conducted on Lauderhill mucks.

The two ratoon experiments at Knight, the CP 96 plant-cane and the two second-ratoon experiments at Okeelanta, and the first-ratoon experiment at SFI were planted on Pahokee muck soils. All three experiments at Sugar Farms Cooperative North--Osceola Region S03 (Osceola) east of Canal Point, were conducted on Terra Ceia muck soils.

The three experiments at Eastgate Farms, Inc. (Eastgate), north of Belle Glade were on Torry mucks; the three experiments at Hilliard Brothers' of Florida Ltd. (Hilliard) west of Clewiston were on Malabar sands; and the three experiments at Lykes Brothers' Farm (Lykes) near Moore Haven in Glades County were on Pompano fine sands.

The CP 96 plant-cane, the CP 95 first-ratoon, and the CP 94 second-ratoon experiments at Okeelanta were planted on fields in successive sugarcane rotations. All other experiments were planted in fields that had not been cropped to sugarcane for about 1 year. In all experiments, clones were planted with two lines of seed

cane per furrow in plots arranged in randomized complete-block designs. The plant-cane experiments of the CP 96 series and all ratoon experiments had eight replications. The plant-cane experiments of the CP 97 series had six replications. Each 3-row plot was 10.7 m long and 3 m wide (0.0032 ha). The distance between rows was 1.5 m, and 1.5-m alleys separated the front and back ends of the plots. Outside rows of most plots were bordered by one row of the same clone as planted in the plot. An extra 1.5 m of sugarcane protected the front and back of each test.

Samples of 10 stalks per plot were cut from unburned cane from all plots in each experiment between October 17, 2001 and February 21, 2002. In all experiments, one sample per plot was cut from the middle row of each plot. In addition, preharvest samples were cut from two replications of 10 plant-cane experiments on October 9, 11, 15, 16, and 18, 2001. For all samples, once a stool of sugarcane was chosen for cutting, the next 10 stalks in the row were cut as the 10-stalk sample. The range of sample dates for each crop was as follows:

Plant-cane crop	December 12, 2001 to February 2, 2002,
First-ratoon crop	October 30, 2001 to February 20, 2002,
Second-ratoon crop	October 17, 2001 to February 21. 2002

After the stalk samples were transported to the Agricultural Research Service's Sugarcane Field Station at Canal Point, FL for weighing and milling, crusher juice from the milled stalks was analyzed for Brix and pol, and theoretical recoverable yield of kg 96° KS/T (kg sugar per metric ton of cane) were determined as a measure of sugar content. The procedure used to calculate these yields used fiber percentages (Legendre, 1992).

Total millable stalks per plot were counted between June 25, 2001, and September 13, 2001. Yields of TC/H (metric tons of cane per hectare) were calculated by multiplying stalk weights by number of stalks. Theoretical yields of metric tons of sugar per hectare (TS/H) were calculated by multiplying TC/H by KS/T and dividing by 1,000.

The clones were inoculated in stage II plots to determine eye spot susceptibility. Before their advancement to stage IV, clones were tested separately by artificial inoculation for susceptibility to sugarcane smut, sugarcane mosaic virus, leaf scald, and RSD. Once they advanced to stage IV, separate artificial-inoculation tests were repeated for smut, RSD, mosaic, and leaf scald. Each clone was also rated for its reactions to natural infection by sugarcane smut, sugarcane rust, sugarcane mosaic virus, and leaf scald. Agronomic practices, such as fertilization, pest and water control, and cultivation, were conducted by the landowner in whose field each experiment was planted.

Two separate tests were conducted at Gainesville to determine cold tolerance of clones from the CP 94, CP 95, and CP 96 series. These tests were conducted at the Florida Institute of Food and Agricultural Sciences Greenacres Agronomy Farm and the Hague Farm. The experiments were planted in randomized complete blocks with six replications. Plots were 1.5 m long and 2.1 m wide. The temperature dropped to below -3.9 $^{\circ}$C on November 22-23, 2000 and December 18, 20-21, and 31, 2000. Stalk samples were cut for analyses of sucrose content on November 30, 2000 and January 11, 2001. The clones in the CP 97 series were tested on three separate occasions for cold tolerance, to correspond to early, middle, and late harvests, after 5-hour exposures to -4.4 $^{\circ}$C in a walk-in freezer at Canal Point. Their juice quality was sampled 4 weeks after each sampling on October 10, 2001, January 10, 2002, and March 29, 2002. The cold-tolerance ranking was based on deterioration of juice quality after the freeze damage to mature sugarcane stalks. However, the clones at Gainesville had considerable differences in maturity at the time

of the freezes and samples. Level of maturity probably affected degree of cold injury and subsequent deterioration of juice quality.

Analyses of variance were done using procedures described by McIntosh (1983). F-ratios were chosen according to a mixed model, with clones fixed and locations random. The source of variation that corresponded to the error term for the effect being tested was used to calculate the least significant difference (*LSD*). *LSD* was used, regardless of significance of F-ratios, in all analyses, to protect against high type-II error rates. Significant differences were sought at the 10 percent probability (Glaz and Dean, 1988). Analyses of variance were calculated with SAS (SAS, 1985).

Analyses of clonal stability across locations were done by using procedures recommended by Shukla (1972). The higher the Shukla-safety estimate, the less stable the clone. Thus, a clone with a low stability value would most likely produce relatively constant yields across locations.

RESULTS AND DISCUSSION

Table 1 lists the parentage, percent fiber, and reactions to smut, rust, leaf scald, mosaic, and RSD diseases for each clone included in these experiments. Tables 2–5 contain the results of the CP 97 plant-cane experiments, and tables 6–7 contain the results of the CP 96 plant-cane experiments. Tables 8-10 contain the results of the CP 96 first-ratoon experiments, and tables 11-12 contain the results of the CP 95 first-ratoon experiments. Tables 13-15 contain the results of the CP 95 second-ratoon experiments, and tables 16-17 contain the results of the CP 94 second-ratoon experiments. Table 18 lists cold tolerance ratings for the clones in the CP 94, CP 95, CP 96, and CP 97 series. Table 19 lists the dates that stalks were counted in each experiment.

Plant-Cane Crop, CP 97 Series

When averaged across all seven locations, seven new clones--CP 97-1387, CP 97-1994, CP 97-1164, CP 97-1979, CP 97-1944, CP 97-1989, and CP 97-1777--yielded significantly more TS/H (metric tons of sugar per hectare) than CP 70-1133 (table 5). CP 97-1387 was the most promising of the group because it also yielded significantly more TS/H than CP 72-2086 at four of the five locations that included CP 72-2086. The overall mean yield of TC/H (metric tons of cane per hectare) of CP 97-1387 was significantly higher than that of CP 70-1133 and the TC/H yields of CP 97-1387 were significantly higher than those of CP 72-2086 at four locations (table 2). The mean preharvest yield of kg of sugar per metric ton of cane (KS/T) of CP 97-1387 was significantly lower than that of CP 70-1133 (table 3). Preharvest KS/T yields of CP 97-1387 were particularly low at Knight and SFI. CP 97-1387 and CP 70-1133 had similar yields of harvest KS/T, but the KS/T yields of CP 97-1387 were lower than those of CP 72-2086 at three of five locations (table 4). The TC/H yields of CP 97-1387 were moderately unstable across locations, largely due to its outstanding yields at all locations except Duda. (table 2).

The mean TC/H yield of CP 97-1994 was moderately high (table 2), but its mean preharvest and harvest yields of KS/T were significantly higher than those of CP 70-1133 (tables 3 and 4). In addition, the high KS/T yields of CP 97-1994 were more stable across locations than those of any other clone (table 4). The TC/H yields of CP 97-1994 were also high and stable across all locations except Duda (table 2). CP 97-1989, CP 97-1979, and CP 97-1164 all had high yields of TC/H. The preharvest KS/T yield of CP 97-1164 was significantly higher than that of CP 70-1133, and the harvest KS/T yields of these two clones were similar (tables 3 and 4). The KS/T yield of CP 97-1979 was lower than that of CP 70-1133, but the KS/T yields of these two clones were not significantly different. The KS/T yield of CP 97-1989 was significantly lower than that of CP 97-1979.

The mean TC/H yield of CP 97-1944 was moderately lower than the TC/H yields of some promising new clones, but significantly higher than that of CP 70-1133, and the TC/H yields across locations of CP 97-1944 were more stable than those of all other clones in this group (table 2). The harvest and preharvest yields of KS/T of CP 97-1944 were moderately high compared to those of CP 70-1133, but mediocre compared to those of CP 72-2086 (tables 3 and 4). The TC/H yield of CP 97-1777 was moderately low, but not significantly different from that of CP 70-1133. The overall mean yield of KS/T of CP 97-1777 was significantly more than that of CP 70-1133, and the KS/T yields of CP 97-1777 were moderately stable across locations (table 4).

Increases of seed cane of all of the previously mentioned CP 97 series clones except for CP 97-1989 were started for potential release at all locations.

Increases of CP 97-1989 and CP 97-2103 were started at locations with sand soil (table 1). Increases at all locations were also started for CP 97-1068 which had TC/H, KS/T, and TS/H yields similar to those of CP 70-1133 (tables 2, 3, 4, 5). CP 97-2103 was only planted at Knight and Lykes and had significantly higher yields of TC/H and TS/H than CP 70-1133 at Lykes (tables 2 and 5).

Of the CP 97 clones that advanced to the increase program, CP 97-1387, CP 97-1979, and CP 97-1994 had reactions acceptable for commercial production to smut, rust, leaf scald, mosaic, and RSD (table 1). CP 97-1068 and CP 97-1164 had acceptable reactions to all diseases except RSD. CP 97-1944 and CP 97-1989 were both susceptible to leaf scald, and CP 97-1944 was susceptible to RSD. CP 97-1777 was susceptible to smut, and its reaction to RSD was not yet determined. CP 97-2103 had acceptable reactions to all diseases for which it was tested, but its smut susceptibility was not yet determined. CP 97-2103 also had a high fiber percentage, and CP 97-1989 was moderately high. Freeze tolerances were excellent for CP 97-1068

and CP 97-1387, but poor for CP 97-1994 and CP 97-1777 (table 18).

Plant-Cane Crop, CP 96 Series

Last year's report contained the results from six locations of the CP 96 series plant-cane crop. In those tests, CP 96-1602 was the only clone that had a significantly higher yield of TS/H than CP 70-1133 (Glaz, Tai et al. 2002). This year, results are available from three additional locations (tables 6 and 7). When averaged across all three farms, two new clones--CP 96-1602 and CP 96-1252--yielded significantly more TS/H than CP 70-1133 (table 7). CP 96-1602 yielded significantly more TC/H and preharvest KS/T than CP 70-1133, and both CP 96-1602 and CP 96-1252 yielded significantly more harvest KS/T than CP 70-1133 (tables 6 and 7). CP 96-1252 had a high yield of TC/H, but not significantly higher than that of CP 70-1133 (table 7). CP 96-1602 yielded significantly more TS/H than all other clones except CP 96-1252 and CP 96-1171 (table 7). CP 96-1171 yielded significantly more KS/T than CP 70-1133 (table 6) and had high yields of TC/H and TS/H, but not significantly higher than those of CP 70-1133 (table 7).

Last year as plant cane, CP 96-1602 had high TC/H, preharvest, and harvest KS/T yields (Glaz, Tai, et al. 2002). However, last year, the KS/T yield of CP 96-1602 was mediocre on the sand soil at Lykes. This year, the KS/T yield of CP 96-1602 was high at Hilliard, another location with sand soil (table 6). CP 96-1252 and CP 96-1171 had TS/H yields not significantly different from the TS/H yield of CP 70-1133 last year (Glaz, Tai, et al., 2002).

Increases of seed cane of CP 96-1171, CP 96-1252, and CP 96-1602 are underway for potential release (table 1). The only disease concern of these clones is the smut susceptibility of CP 96-1171. Fiber percentages for these three CP 96 series clones ranged between 8.58 (CP 96-1171) and 9.58 percent (CP 96-1602). All three of the CP 96 series clones being increased did not have good tolerance to freezes

(table 18).

First-Ratoon Crop, CP 96 Series

When averaged across all seven farms, CP 96-1252 was the only clone that yielded significantly more TS/H than CP 70-1133 (table 10). CP 96-1252 also yielded significantly more TS/H than all other clones, and significantly more TC/H than all other clones (tables 8 and 10). The TC/H and TS/H yields of CP 96-1252 were stable and high at all locations except Knight where they were extremely low. Molecular fingerprinting is currently being conducted to verify that the clone identified at Knight as CP 96-1252 is identical to the clones identified as CP 96-1252 at other locations. The KS/T yields of CP 96-1252 and CP 70-1133 were similar (table 9).

Last year as plant cane, CP 96-1602 had high TS/H, TC/H, and KS/T yields (Glaz, Tai, et al., 2002). The authenticity of CP 96-1602 at Duda was also questioned last year. It has since been determined through single sequence repeats of DNA that the clone labeled as CP 96-1602 at Duda differs from the CP 96-1602 at the other locations (Y.-B. Pan, Personal Communication 2002). This year as first ratoon, the TC/H and TS/H yields of CP 96-1602 dropped to levels similar to those of CP 70-1133 (tables 8 and 10). However, CP 96-1602 maintained a high yield of KS/T, significantly higher than that of CP 70-1133, and significantly higher than the KS/T yields of 6 of the other 10 clones in this group (table 9). In an analysis that does not include yields from Duda, CP 96-1602 had TC/H and TS/H that were similar to those of CP 96-1252, but still significantly lower than those of CP 70-1133 (data not shown).

First-Ratoon Crop, CP 95 Series

CP 95-1569 was the only clone in these tests that had significantly higher yields of TC/H and TS/H than those of CP 70-1133 (table 11). The KS/T yields of CP 95-1569 and CP 70-1133 were similar (table 12). Last year as plant cane at these farms, CP 95-1569 also had TC/H and TS/H yields similar to those of CP 70-1133 (Glaz, Tai, et al., 2002). CP 95-1569 was not selected for advancement to commercial status due to low yields of KS/T.

Second-Ratoon, CP 95 Series

CP 95-1569 and CP 95-1712 yielded significantly more TC/H and TS/H than CP 70-1133 (tables 13 and 15). The KS/T yield of CP 95-1569 was similar to the KS/T yields of CP 70-1133 and CP 95-1712, but the KS/T yield of CP 95-1712 was significantly lower than that of CP 70-1133 (table 14). CP 95-1569 had similar yields at these locations as plant cane and first ratoon during the previous 2 years (Glaz et al. 2001; Glaz, Tai, et al. 2002). CP 95-1712 did not have TC/H or TS/H yields significantly greater than those of CP 70-1133 in plant-cane or first-ratoon crops.

Like CP 95-1569, CP 95-1712 is not being considered for commercial release due to low KS/T yields. Other concerns of CP 95-1712 were that its plant-cane and first-ratoon yields were not higher than those of CP 70-1133, but susceptible to smut and RSD (table 1).

Second-Ratoon Crop, CP 94 Series

Last year, results for these clones were reported from seven locations in the second-ratoon crop and three locations in the first-ratoon crop (Glaz, Tai, et al. 2002). This year, information from three locations in the second-ratoon crop completes the Stage IV analyses of these clones. No clone yielded significantly more TS/H than CP 70-1133 (table 16). However, CP 94-1100 and CP 94-1340 have

been released for commercial production in Florida (table 1).

Although not significantly greater than those of CP 70-1133, CP 94-1100 had high mean yields of TS/H and TC/H (table 16). At the Okeelanta experiment, which was planted in a successive field, CP 94-1100 yielded significantly more TC/H and TS/H than CP 70-1133. The yield of KS/T of CP 94-1100 was similar to that of CP 70-1133 (table 17). The yields of TC/H and TS/H of CP 94-1340 were low but not significantly different from those of CP 70-1133 (table 16). The yield of TS/H of CP 94-1340 was significantly lower than that of CP 94-1100. The yield of KS/T of CP 94-1340 was moderately high, but not significantly

different from that of CP 70-1133 (table 17).

CP 94-1100 and CP 94-1340 were rated as either resistant enough for commercial production or with only low levels of susceptibility to smut, rust, leaf scald, and mosaic, but susceptible to RSD (table 1). The fiber percentages of CP 94-1100 and CP 94-1340 were 9.70 and 9.80, respectively, compared to 10.37 for CP 70-1133. CP 94-1340 had a favorable ranking for tolerance to cold temperatures, whereas CP 94-1100 ranked similarly to CP 70-1133(table 18).

SUMMARY

The CP 97 series was tested for the first time this year at seven locations in Stage IV. The mean TS/H yields of CP 97-1387, CP 97-1994, CP 97-1164, CP 97-1979, CP 97-1944, CP 97-1989, and CP 97-1777 were all greater than the TS/H yield of CP 70-1133. The TS/H yields of CP 97-1387 were greater than those of CP 72-2086 at four of five locations where both clones were tested. Yields of KS/T varied substantially among these seven promising clones. CP 97-1994, CP 97-1777, and CP 97-1944 had high KS/T yields, and the KS/T yield of CP 97-1164 was moderately high. The KS/T yields of CP 97-1387 and CP 97-1979 were mediocre. CP 97-1989 had

a low KS/T yield.

This year, the CP 96 series was tested at three locations in the plant-cane crop 7and at six locations in the first-ratoon crop. CP 96-1252 had high TS/H, TC/H, and KS/T yields in both groups of tests. CP 96-1171 had moderately high yields in both groups of experiments, and CP 96-1602 had high cane and sugar yields in the plant-cane, but not in the first-ratoon experiments.

The CP 95 series was tested at three locations in the first-ratoon crop and at seven locations in the second-ratoon crop. CP 95-1569 had similarly high TS/H

and TC/H yields in these tests this year as in previous years. However, CP 95-1569 was not considered a candidate for commercial production due to moderately low yields of KS/T.

The CP 94 series was tested at three locations in the second-ratoon crop to complete the Stage IV testing for this series, and no clone had higher TS/H yields than CP 70-1133. However, CP 94-1100 and CP 94-1340 had sufficiently high yields in previous Stage IV tests to warrant their commercial release. CP 94-1100 had high yields of TC/H and CP 94-1340 had high yields of KS/T.

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Table 1. Parentage, fiber content, and ratings of susceptibility to smut, rust, leaf scald, mosaic, and RSD for CP 70-1133, CP 72-2086, and 48 new sugarcane clones.

			Rating*				
Clone	**Parentage**	**Percent fiber**	**Smut**	**Rust**	**Leaf scald**	**Mosaic**	**RSD**
CP 70-1133 †	67 P6 CP 56-63 §	10.37	L	S	L	R	S
CP 72-2086 †	CP 62-374 X CP 63-588	8.97	R	R	R	S	R
CP 94-1100 †	CP 81-1238 X CP 88-2045	9.70	R	L	L	L	S
CP 94-1200	CP 83-1969 X CP 80-1743	10.72	S	S	L	L	R
CP 94-1292	CP 89-2375 X CP 89-2335	10.66	R	R	L	R	S
CP 94-1340 †	CP 87-1733 X CP 86-1665	9.80	R	R	R	R	S
CP 94-1447	CP 71-1240 X CP 89-2335	11.01	R	R	L	R	R
CP 94-1528	91 P13 CP 72-2086 §	10.21	L	L	R	L	S
CP 94-1607	CP 87-1733 X CP 85-1491	11.24	L	R	S	R	S
CP 94-1628	CP 78-1628 X CP 85-1491	12.10	R	S	L	R	L
CP 94-1855	CP 87-1733 X Pelorus	10.82	R	R	L	L	S
CP 94-2059	CP 87-1475 X CP 85-1308	10.34	R	R	L	L	L
CP 94-2095	CP 87-1737 X CP 72-1210	9.98	R	R	L	L	R
CP 94-2203	US 90-1072 X CP 80-1827	12.82	L	R	L	L	U
CP 95-1039	95 P9 US 90-0017§	10.22	L	R	R	R	R
CP 95-1376	CP 91-0534 X HoCP 85-845	10.88	R	R	R	S	R
CP 95-1429	95 P16 CP 89-1945 §	10.88	L	R	R	L	R
CP 95-1446	95 P17 ROC 12 §	10.26	L	R	U	L	S
CP 95-1569	CP 89-1268 X CP 88-1834	11.74	R	L	L	R	L
CP 95-1570	CP 90-1428 X CP 88-1834	9.81	R	R	L	R	L
CP 95-1712	CP 65-0357 X CP 87-1628	11.36	S	L	L	R	S
CP 95-1726	CP 81-1238 X CP 85-1308	10.70	S	R	R	L	R
CP 95-1834	CP 87-1733 X CP 85-1491	10.00	R	L	R	R	R
CP 95-1913	US 90-1011 X CP 72-2086	12.03	R	R	R	R	R
CP 96-1161	CP 75-1091 X CP 78-1628	10.54	S	S	R	L	R
CP 96-1171 ‡	CP 83-1770 X CP 80-1827	8.58	S	L	L	R	L
CP 96-1252 ‡	CP 90-1533 X CP 84-1198	9.42	R	L	L	R	R
CP 96-1253	CP 90-1533 X CP 84-1198	8.91	R	R	L	L	L
CP 96-1288	TCP 90-4094 X TCP 90-4121	9.20	L	R	L	S	R
CP 96-1290	TCP 90-4094 X TCP 90-4121	9.48	S	R	L	R	R
CP 96-1300	CP 89-2376 X CP 72-1210	10.71	S	L	L	L	S
CP 96-1350	CP 89-1717 X CP 85-1432	8.78	L	L	L	R	R
CP 96-1602 ‡	94 P3 CP 81-1425 §	9.58	L	R	L	L	L
CP 96-1686	94 P5 CP 85-1382§	10.44	R	R	L	R	R
CP 96-1865	Green German X CP 70-1133	12.60	R	L	R	L	S
CP 97-1068 ‡	CP 90-1204 X CP 90-1151	11.17	L	R	L	R	S
CP 97-1164 ‡	94 P3 CP 93-1621§	9.17	R	R	L	R	S
CP 97-1362	CP 91-2234 X CL 72-0321	9.96	L	L	L	R	R
CP 97-1387 ‡	CP 90-1533 X CL 61-0620	10.36	L	R	R	R	L

CP 97-1433	94 P13 CP 90-1497 §	11.87	L	R	S	R	R
CP 97-1777 ‡	CP 90-1233 X CP 57-0603	10.01	S	L	L	L	U
CP 97-1804	CP 90-1424 X CP 89-2377	12.19	R	S	L	L	L
CP 97-1850	94 P17 CP 89-2377§	10.56	S	R	L	R	L
CP 97-1928	CP 90-1533 X CP 57-0603	11.32	L	R	S	L	R
CP 97-1944 ‡	94 P15 CP 80-1743§	10.86	R	R	S	R	S
CP 97-1979 ‡	CP 75-1091 X CL 61-0620	11.78	R	L	L	R	R
CP 97-1989 ‡	CP 75-1091 X CL 61-0620	12.05	R	L	S	L	L
CP 97-1994 ‡	CP 89-1945 X CP 70-1133	10.51	R	L	L	R	R
CP 97-2068	CP 90-1204 X CP 90-1436	12.01	S	L	R	R	R
CP 97-2103 ‡	95 P14 ROC 12§	13.80	U	R	L	R	L

*R = resistant enough for commercial production; L = low levels of disease susceptibility acceptable for commercial production, S = too susceptible for production; U = undetermined susceptibility (available data not sufficient to determine the level of susceptibility).

†Released for commercial production in Florida.

‡ Seed cane currently being increased by Florida Sugar Cane League, Inc. for potential release.

§67 P 6 = 6th polycross made in 1967 crossing season. Female parent (CP 56-63) exposed to pollen from many clones; therefore, male parent of CP 70-1133 unknown. Similar explanations for CP 94-1528, CP 95-1039, CP 95-1429, CP 95-1446, CP 96-1602, CP 96-1686, CP 97-1164, CP 97-1433, CP 97-1850, CP 97-1944, and CP 97-2103.

Table 2. Yields of cane (in metric tons per ha-TC/H) from plant cane on Lauderhill muck, Tierra Ceia muck, and Pompano fine sand.

	Mean yield by soil type, farm, and sampling date								
	Lauderhill muck					Tierra Ceia muck	Pompano fine sand		
Clone	Knight 12/30/01	Okeelanta 1/09/02	Duda 1/22/02	SFI 1/28/02	Wedgworth 2/04/02	Osceola 1/23/02	Lykes Bros. 1/10/02	Stability*	Mean yield, all farms†
CP 97-1387	205.37	196.72	223.81	231.37	258.80	223.06	163.19	1578.79	214.61
CP 97-1989	197.72	194.03	235.76	196.98	238.53	222.04	169.53	456.36	207.80
CP 97-1979	184.96	204.48	226.99	216.41	236.04	211.95	148.29	730.75	204.16
CP 97-1164	202.16	179.53	202.37	212.18	227.22	215.62	145.09	1757.10	197.74
CP 97-1994	183.92	197.72	213.37	195.68	235.47	199.15	153.96	671.39	197.04
CP 97-1944	181.88	179.41	222.89	193.06	208.59	200.43	146.28	30.53	190.36
CP 97-1777	195.25	196.32	210.12	192.13	184.76	182.67	142.14	1462.60	186.20
CP 97-1068	159.42	180.28	224.51	193.74	189.28	210.22	138.57	1525.81	185.15
CP 97-1850	168.37	157.09	256.29	163.77	214.92	165.54	146.67	3140.44	181.81
CP 97-2068	174.21	158.43	215.84	171.29	245.62	173.37	120.38	2596.55	179.88
CP 70-1133	157.37	172.39	244.51	168.61	181.79	160.91	141.68	2344.18	175.32
CP 97-1433	163.04	163.04	218.81	186.39	194.45	154.31	108.30	1079.93	169.76
CP 97-1362	173.68	163.76	189.64	173.04	183.46	156.60	133.21	633.08	167.63
CP 97-1928	175.21	156.86	185.98	164.05	169.20	178.43	133.93	1212.66	166.24
CP 97-1804	165.98	155.24	224.15	152.49	171.08	149.10	130.95	1724.57	164.14
CP 72-2086	----	155.46	194.02	172.52	182.38	165.18	----		173.91
CP 97-2103	158.53	----	----	----	----	----	165.09		
Mean	177.94	175.67	219.67	186.48	207.60	185.53	142.95	1396.32	185.11
LSD‡ (p=0.1)	19.55	19.27	33.85	28.62	24.93	30.22	22.51		13.27
CV § (%)	11.43	11.41	16.15	15.96	12.49	16.94	16.37		14.67

*Stability for each clone except CP 72-2086 and CP 97-2103 is calculated at *p*=0.10 by Shukla's stability-variance parameter.

†Mean yields for clone CP 97-2103 were not included in the overall analysis.
‡ LSD for location means of cane yield =13.72 TC/H at p=0.10.
§CV = coefficient of variation.

Table 3. Preharvest yields of theoretical recoverable 96° sugar (in kg per metric ton of cane —KS/T) from plant cane on Lauderhill muck, Tierra Ceia muck, and Pompano fine sand.

	Mean yield by soil type, farm, and sampling date								
	Lauderhill muck					Tierra Ceia muck	Pompano fine sand		
Clone	Duda 10/09/01	Okeelanta 10/11/01	Knight 10/15/01	Wedgworth 10/15/01	SFI 10/16/01	Osceola 10/18/01	Lykes Bros. 10/09/01	Stability*	Mean yield, all farms†
CP 97-1994	94.1	102.5	83.3	115.5	85.7	111.8	124.4	32.8	102.5
CP 97-1164	91.1	98.2	92.3	106.7	89.1	111.7	115.8	14.0	100.7
CP 97-1928	92.4	91.0	88.4	110.9	88.2	111.5	105.4	88.5	98.2
CP 97-1944	95.3	115.4	69.1	105.1	92.1	113.7	94.0	347.8	97.8
CP 97-1777	77.6	95.2	72.9	97.3	81.2	106.9	109.2	15.5	91.5
CP 70-1133	93.5	93.5	59.5	97.4	79.1	102.9	108.4	160.0	90.6
CP 97-1068	73.8	97.2	82.9	82.3	84.8	104.3	108.0	145.4	90.4
CP 97-1804	73.8	90.2	79.2	92.9	72.1	108.9	113.4	74.9	90.0
CP 97-1433	79.6	75.9	75.1	93.5	86.0	101.6	108.5	138.2	88.6
CP 97-2068	68.0	80.7	106.9	99.9	67.3	95.5	91.9	580.5	87.1
CP 97-1979	79.3	109.0	66.0	98.9	73.2	87.3	95.1	214.2	86.9
CP 97-1362	72.0	88.8	61.6	62.6	70.4	92.2	117.4	420.4	80.7
CP 97-1387	70.1	81.4	58.9	99.3	44.7	92.9	100.8	253.6	78.3
CP 97-1850	63.3	83.9	60.5	93.9	68.1	80.5	94.1	61.9	77.7
CP 97-1989	71.6	84.2	68.9	90.1	58.4	76.2	91.6	88.6	77.3
CP 72-2086	----	97.1	94.0	110.4	82.0	113.0	----		99.3
CP 97-2103	72.6	----	----	----	----	----	106.2		
Mean	79.2	92.7	75.0	97.3	76.4	100.7	105.2	175.7	89.8
LSD‡ (p=0.1)	12.8	17.2	20.9	19.7	33.8	15.5	14.1		8.2
CV § (%)	9.2	10.6	15.7	11.6	25.3	8.8	7.7		12.9

*Stability for each clone except CP 72-2086 and CP 97-2103 is calculated at p=0.10 by Shukla's stability-variance parameter.
†Mean yields for variety CP 97-2103 were not included in the overall analysis.
‡LSD for location means of sugar yield =7.2 KS/T at p=0.10.
§CV = coefficient of variation.

Table 4. Yields of theoretical recoverable 96° sugar (in kg per metric ton of cane —KS/T) from plant cane on Lauderhill muck, Tierra Ceia muck, and

Pompano fine sand.

Mean yield by soil type, farm, and sampling date

Clone	Lauderhill muck Knight 12/30/01	Okeelanta 1/09/02	Duda 1/22/02	SFI 1/28/02	Wedgworth 2/04/02	Tierra Ceia muck Osceola 1/23/02	Pompano fine sand Lykes Bros. 1/10/02	Stability*	Mean yield, all farms†
CP 97-1994	112.7	123.6	112.8	130.8	123.0	124.8	135.5	14.2	123.3
CP 97-1777	111.9	117.4	114.9	127.9	122.0	126.6	136.9	44.9	122.5
CP 97-1944	113.1	124.7	113.0	125.7	123.5	126.8	130.8	52.0	122.5
CP 97-1850	114.5	117.2	116.2	132.5	111.9	124.9	128.9	114.4	120.9
CP 97-1164	110.1	122.8	107.3	129.4	113.2	126.7	134.5	58.6	120.6
CP 97-1068	103.4	124.5	109.0	126.6	113.7	123.0	127.8	97.4	118.3
CP 70-1133	112.1	116.2	113.8	125.2	111.6	120.8	126.4	60.1	118.0
CP 97-1433	113.4	113.9	105.1	125.2	116.6	120.0	128.9	46.8	117.6
CP 97-1387	100.7	117.2	112.4	123.5	123.3	118.6	127.1	193.9	117.5
CP 97-1928	108.1	118.2	106.3	122.1	116.9	117.5	124.5	38.7	116.2
CP 97-1979	111.5	118.2	101.2	120.4	108.4	124.5	128.9	116.5	116.1
CP 97-1362	107.1	118.1	107.8	128.0	99.4	119.3	128.0	234.6	115.4
CP 97-1804	103.5	107.7	103.8	116.4	110.1	116.3	128.8	53.2	112.4
CP 97-2068	101.8	112.3	101.5	120.8	114.7	109.6	120.4	91.6	111.6
CP 97-1989	106.1	102.4	96.0	115.4	107.3	118.4	128.8	188.9	110.6
CP 72-2086	----	127.3	113.2	135.9	130.5	130.2	----		127.4
CP 97-2103	101.9	----	----	----	----	----	129.1		
Mean	108.2	117.6	108.1	125.4	115.4	121.7	129.1	93.7	118.2
LSD‡ (p=0.1)	7.1	5.9	8.7	6.3	10.5	6.3	8.5		3.5
CV § (%)	6.8	5.2	8.4	5.2	9.4	5.4	6.8		6.9

*Stability for each clone except CP 72-2086 and CP 97-2103 is calculated at p=0.10 by Shukla's stability-variance parameter.
†Mean yields for clone CP 97-2103 were not included in the overall analysis.
‡ LSD for location means of sugar yield =2.9 KS/T at p=0.10.
§CV = coefficient of variation.

Table 5. Yields of theoretical recoverable 96° sugar (in metric tons per ha—TS/H) from plant cane on Lauderhill muck, Tierra Ceia muck, and Pompano fine sand.

	Mean yield by soil type, farm, and sampling date								
	Lauderhill muck					Tierra Ceia muck	Pompano fine sand		
Clone	Knight 12/30/01	Okeelanta 1/09/02	Duda 1/22/02	SFI 1/28/02	Wedgworth 2/04/02	Osceola 1/23/02	Lykes Bros. 1/10/02	Stability*	Mean yield, all farms†
CP 97-1387	20.699	23.102	25.231	28.524	31.887	26.177	20.726	36.863	25.192
CP 97-1994	20.825	24.466	24.182	25.756	28.987	24.834	20.838	13.927	24.270
CP 97-1164	22.238	22.098	21.987	27.577	25.706	27.468	19.489	32.265	23.795
CP 97-1979	20.640	24.170	23.434	26.103	25.766	26.406	19.017	14.054	23.648
CP 97-1944	20.618	22.389	25.401	24.242	25.713	25.347	19.132	0.719	23.263
CP 97-1989	20.979	19.993	22.708	22.722	25.627	26.342	21.958	27.233	22.904
CP 97-1777	21.837	23.021	24.290	24.493	22.541	23.209	19.447	10.021	22.691
CP 97-1850	19.301	18.417	30.324	21.750	24.186	20.661	18.935	59.867	21.939
CP 97-1068	16.542	22.427	24.522	24.492	21.667	25.813	17.571	31.597	21.862
CP 70-1133	17.683	20.036	27.533	21.130	20.695	19.476	17.893	37.650	20.635
CP 97-2068	17.791	17.781	21.927	20.736	28.179	18.982	14.548	49.275	19.992
CP 97-1433	18.450	18.616	23.147	23.337	22.810	18.569	13.963	17.278	19.842
CP 97-1362	18.641	19.379	20.571	22.157	18.561	18.695	17.119	20.378	19.303
CP 97-1928	18.822	18.531	19.881	19.994	19.765	20.902	16.806	11.121	19.243
CP 97-1804	17.215	16.716	23.534	17.743	18.925	17.415	16.862	28.284	18.344
CP 72-2086	----	19.848	22.407	23.629	23.886	21.504	----		22.255
CP 97-2103	16.134	----	----	----	----	----	21.274		
Mean	19.276	20.687	23.817	23.399	24.056	22.612	18.474	26.035	21.824
LSD‡ (p=0.1)	2.573	2.696	4.617	4.000	4.055	3.800	3.152		1.813
CV § (%)	13.882	13.552	20.161	17.793	17.529	17.600	17.746		17.380

*Stability for each clone except CP 72-2086 and CP 97-2103 is calculated at *p*=0.10 by Shukla's stability-variance parameter.
†Mean yields for clone CP 97-2103 were not included in the overall analysis.
‡ LSD for location means of cane yield =1.915 TS/H at *p*=0.10.
§CV = coefficient of variation.

Table 6. Yields of preharvest and harvest theoretical recoverable 96° sugar (in kg per metric ton of cane— KS/T) from plant cane on Pahokee muck, Torry muck, and Malabar sand.

	Preharvest yield by soil type, farm, and sampling date				Harvest yield by soil type, farm and sampling date			
	Pahokee muck	Torry muck	Malabar sand		Pahokee muck	Torry muck	Malabar sand	
Clone	Okeelanta 10/11/01	Eastgate 10/09/01	Hilliard 10/09/01	Mean yield, all farms	Okeelanta 2/05/02	Eastgate 2/20/02	Hilliard 12/12/01	Mean yield, all farms
CP 96-1686	114.7	103.2	116.3	111.4	140.7	128.1	141.1	136.6
CP 96-1602	126.2	117.9	124.8	122.9	134.5	133.1	140.0	135.9
CP 96-1171	116.0	113.4	110.3	113.2	135.0	133.5	132.7	133.7
CP 96-1350	107.7	110.7	97.1	105.2	131.4	131.2	134.8	132.5
CP 96-1252	110.7	107.9	110.8	109.8	134.3	126.1	136.6	132.3
CP 96-1253	118.2	115.8	123.3	119.1	135.2	123.3	134.3	130.9
CP 96-1300	110.6	77.6	107.3	98.5	138.1	120.6	134.1	130.9
CP 96-1288	102.8	89.8	108.5	100.4	132.9	123.2	134.5	130.2
CP 96-1290	109.7	99.1	111.4	106.7	121.8	121.0	133.9	125.5
CP 96-1161	112.6	97.8	108.5	106.3	127.0	121.0	127.9	125.3
CP 70-1133	105.2	100.6	119.1	108.3	125.7	118.8	130.6	125.0
CP 96-1865	105.0	100.4	105.4	103.6	122.4	113.3	127.0	120.9
Mean	111.6	102.8	111.9	108.8	131.6	124.4	134.0	130.0
LSD*	21.0	15.9	20.4	9.0	5.6	5.5	5.4	4.7
CV†	10.5	8.6	10.2	9.9	5.1	5.3	4.8	5.1

*LSD for location means of preharvest yield = 10.8 KS/T and of harvest yield = 4.7 KS/T.
†CV = coefficient of variation.

Table 7. Yields of cane and of theoretical recoverable 96° sugar (in metric tons per ha—TC/H and TS/H) from plant cane on Pahokee muck, Torry muck, and Malabar sand.

	Cane yield by soil type, farm, and sampling date				Sugar yield by soil type, farm and sampling date			
	Pahokee muck	Torry muck	Malabar sand		Pahokee muck	Torry muck	Malabar sand	
Clone	Okeelanta 2/05/02	Eastgate 2/20/02	Hilliard 12/12/01	Mean yield, all farms	Okeelanta 2/05/02	Eastgate 2/20/02	Hilliard 12/12/01	Mean yield, all farms
CP 96-1602	118.16	238.82	186.05	181.01	15.958	31.888	26.072	24.639
CP 96-1252	131.92	196.55	187.34	171.93	17.668	24.535	25.583	22.596
CP 96-1171	103.00	199.53	185.53	162.68	13.878	26.630	24.650	21.719
CP 96-1350	109.74	176.80	145.70	144.08	14.415	23.300	19.690	19.135
CP 96-1288	86.94	211.74	145.13	147.94	11.624	26.033	19.584	19.080
CP 96-1300	132.45	116.68	183.04	144.06	18.265	13.929	24.573	18.923
CP 96-1253	83.19	202.84	141.43	142.49	11.252	24.996	18.976	18.408
CP 96-1686	98.70	159.25	147.08	135.01	13.849	20.414	20.700	18.321
CP 96-1290	93.25	143.75	186.62	141.21	11.362	17.593	24.956	17.970
CP 70-1133	128.46	157.65	133.62	139.91	16.170	18.775	17.566	17.504
CP 96-1161	75.31	155.78	179.97	137.02	9.605	18.800	22.967	17.124
CP 96-1865	93.20	154.75	144.48	130.81	11.310	17.421	18.403	15.711
Mean	104.53	176.18	163.83	148.18	13.780	22.026	21.977	19.261
LSD*	15.14	43.33	18.77	36.23	2.054	5.500	2.798	4.873
CV†	17.40	29.55	13.76	23.21	17.909	30.174	15.295	23.518

*LSD for location means of cane yield = 36.23 TC/H and of sugar yield = 1.612 TS/H.
†CV = coefficient of variation.

Table 8. Yields of cane (in metric tons per ha-TC/H) from first-ratoon cane on Lauderhill muck, Pahokee muck, Tierra Ceia muck, and Pompano fine sand.

	Mean yield by soil type, farm, and sampling date								
	Lauderhill muck			Pahokee muck		Tierra Ceia muck	Pompano Fine sand		
Clone	Okeelanta 12/15/01	Wedgworth 1/29/02	Duda 1/31/02	SFI 12/06/01	Knight 12/10/01	Osceola 10/30/01	Lykes Bros. 12/31/01	Stability*	Mean yield, all farms
CP 96-1252	178.49	185.85	234.97	170.39	119.62	217.16	127.63	2118.69	176.30
CP 96-1171	139.88	167.49	199.55	134.50	170.56	173.86	121.77	2296.34	158.23
CP 96-1161	128.34	163.54	186.72	159.43	176.92	188.04	95.57	2115.15	156.94
CP 96-1290	158.35	162.35	187.37	153.52	192.55	155.98	85.73	6786.11	156.55
CP 96-1300	177.80	139.23	171.90	173.57	159.62	177.33	89.22	2595.01	155.53
CP 70-1133	169.59	169.19	189.93	169.24	156.76	137.08	89.73	1954.27	154.51
CP 96-1350	137.24	155.14	201.52	157.29	162.29	164.17	92.06	2850.88	152.82
CP 96-1602	161.26	172.38	----	167.84	154.42	164.28	93.55	681.48	152.29
CP 96-1865	144.99	175.18	171.12	156.93	146.06	152.28	89.72	3362.42	148.04
CP 96-1288	131.28	164.14	210.54	137.11	143.79	143.22	96.45	7318.24	146.65
CP 96-1686	142.54	160.65	208.37	143.20	120.96	146.99	86.70	1926.99	144.20
CP 96-1253	128.28	150.89	172.00	120.37	96.83	157.97	93.83	570.81	131.45
Mean	149.84	163.84	194.00	153.62	150.03	164.86	96.83	2881.36	152.79
LSD* (p=0.1)	13.78	22.03	20.86	18.02	24.73	17.35	22.51		16.92
CV† (%)	11.05	16.15	13.33	14.09	19.80	12.64	16.37		15.82

*Stability for each clone is calculated at *p*=0.10 by Shukla's stability-variance parameter.
†LSD for location means of cane yield =8.29 TC/H at *p*=0.10.
‡CV = coefficient of variation.

Table 9. Yields of theoretical recoverable 96° sugar (in kg per metric ton of cane —KS/T) from first-ratoon cane on Lauderhill muck, Pahokee muck, Tierra Ceia muck, and Pompano fine sand.

	Mean yield by soil type, farm, and sampling date								
	Lauderhill muck			Pahokee muck		Tierra Ceia muck	Pompano Fine sand		
Clone	**Okeelanta 12/15/01**	**Wedgworth 1/29/02**	**Duda 1/31/02**	**SFI 12/06/01**	**Knight 12/10/01**	**Osceola 10/30/01**	**Lykes Bros. 12/31/01**	**Stability***	**Mean yield, all farms**
CP 96-1602	132.8	126.8	----	125.5	112.0	124.9	142.8	327.0	127.5
CP 96-1350	126.4	126.2	114.1	125.2	119.8	126.8	137.4	64.2	125.1
CP 96-1253	127.0	129.2	120.0	124.7	113.2	125.5	135.0	252.3	124.9
CP 96-1686	132.9	123.7	96.1	122.6	120.4	133.1	139.9	23.9	124.1
CP 96-1300	132.7	121.1	111.8	114.2	122.4	122.9	138.6	190.5	123.4
CP 96-1252	125.1	125.0	112.4	120.5	111.4	121.7	137.5	209.2	121.9
CP 96-1171	125.5	123.2	120.1	113.2	106.1	120.5	139.5	59.0	121.1
CP 96-1161	135.8	114.9	109.8	116.2	112.3	117.0	137.0	172.9	120.4
CP 96-1288	120.2	120.1	110.8	117.1	108.9	116.0	145.2	45.0	119.8
CP 70-1133	122.1	116.0	106.0	117.0	116.1	123.5	137.1	108.8	119.7
CP 96-1290	117.0	120.8	107.0	115.7	110.9	120.5	136.6	563.5	118.4
CP 96-1865	119.8	117.3	102.4	121.6	117.7	115.0	128.5	224.8	117.5
Mean	126.4	122.0	110.0	119.5	114.3	122.3	137.9	186.8	122.0
LSD* (p=0.1)	4.8	4.9	7.7	8.3	7.8	5.4	8.5		4.3
CV† (%)	4.6	4.8	8.4	8.3	8.2	5.3	6.8		6.6

*Stability for each clone is calculated at *p*=0.10 by Shukla's stability-variance parameter.
†LSD for location means of sugar yield = 2.4 KS/T at *p*=0.10.
‡CV = coefficient of variation.

Table 10. Yields of theoretical recoverable 96° sugar (in metric tons per ha—TS/H) from first-ratoon cane on Lauderhill muck, Pahokee muck, Tierra Ceia muck, and Pompano fine sand.

	Mean yield by soil type, farm, and sampling date								
	Lauderhill muck			**Pahokee muck**		**Tierra Ceia muck**	**Pompano Fine sand**		
Clone	**Okeelanta 12/15/01**	**Wedgworth 1/29/02**	**Duda 1/31/02**	**SFI 12/06/01**	**Knight 12/10/01**	**Osceola 10/30/01**	**Lykes Bros. 12/31/01**	**Stability***	**Mean yield, all farms**
CP 96-1252	22.262	23.291	26.437	20.541	13.334	26.417	17.618	24.423	21.414
CP 96-1602	21.426	21.898	----	21.044	17.177	20.543	13.388	41.612	19.247
CP 96-1171	17.562	20.583	24.005	15.214	18.325	21.006	17.321	16.337	19.145
CP 96-1300	23.586	16.774	19.576	19.663	19.551	21.720	12.471	52.732	19.049
CP 96-1350	17.405	19.579	22.986	19.674	19.456	20.806	12.725	102.131	18.947
CP 96-1161	17.426	18.902	20.599	18.535	19.609	21.986	13.064	43.924	18.589
CP 96-1290	18.504	19.582	20.046	17.841	21.532	18.816	11.768	35.084	18.298
CP 70-1133	20.697	19.598	20.215	19.895	18.064	16.960	12.266	61.335	18.242
CP 96-1686	18.936	19.816	20.004	17.421	14.611	19.603	12.055	17.849	17.492
CP 96-1288	15.790	19.707	23.377	16.061	15.663	16.652	13.953	115.527	17.315
CP 96-1865	17.365	20.567	17.597	19.081	17.106	17.494	11.547	2.318	17.251
CP 96-1253	16.289	19.527	20.665	14.968	11.022	19.821	12.937	19.471	16.461
Mean	18.937	19.985	21.410	18.328	17.121	20.152	13.426	44.395	18.454
LSD* (p=0.1)	1.847	2.839	3.018	2.381	3.019	2.245	3.152		2.104
CV† (%)	11.716	17.062	177.500	15.605	21.184	13.384	17.746		17.587

*Stability for each clone is calculated at *p*=0.10 by Shukla's stability-variance parameter.
†LSD for location means of sugar yield = 1.066 TS/H at *p*=0.10.
‡CV = coefficient of variation.

Table 11. Yields of cane and of theoretical recoverable 96° sugar (in metric tons per ha—TC/H and TS/H) from first-ratoon cane on Lauderhill muck, Torry muck, and Malabar sand.

	Cane yield by soil type, farm, and sampling date				Sugar yield by soil type, farm and sampling date			
	Lauderhill muck	Torry muck	Malabar sand		Lauderhill muck	Torry muck	Malabar sand	
Clone	Okeelanta 11/21/01	Eastgate 2/20/02	Hilliard 12/20/01	Mean yield, all farms	Okeelanta 11/21/01	Eastgate 2/20/02	Hilliard 12/20/01	Mean yield, all farms
CP 95-1569	121.04	206.61	116.77	148.14	14.668	26.256	15.441	18.788
CP 95-1570	124.84	199.87	96.36	140.35	14.433	25.452	13.180	17.689
CP 95-1712	126.10	193.15	89.83	136.36	14.263	24.410	12.210	16.961
CP 70-1133	124.00	170.12	98.86	130.99	14.931	20.666	13.461	16.353
CP 94-2203	101.32	194.07	82.68	126.02	12.078	25.058	11.355	16.163
CP 95-1039	113.61	165.47	84.12	121.06	13.598	22.178	11.456	15.744
CP 95-1429	112.88	174.63	78.28	121.93	13.215	22.658	10.731	15.535
CP 95-1376	90.64	168.18	61.10	106.64	11.315	23.053	8.841	14.403
CP 95-1726	110.68	146.28	66.99	107.98	13.791	19.802	9.605	14.399
CP 95-1446	97.74	155.06	79.84	110.88	11.897	20.131	11.057	14.362
CP 95-1834	96.07	161.20	76.20	111.16	11.195	20.399	10.100	13.898
CP 95-1913	93.42	172.17	80.40	115.33	9.909	20.717	10.917	13.848
Mean	109.36	175.57	84.28	123.07	12.941	22.565	11.529	15.678
LSD* (p=0.1)	13.40	22.17	13.27	13.93	1.657	2.960	1.877	1.912
CV† (%)	14.72	15.17	18.92	16.41	15.384	15.755	19.560	17.149

*LSD for location means of cane yield = 8.04 TC/H and of sugar yield = 1.145 TS/H.
†CV = coefficient of variation.

Table 12. Theoretical recoverable yields of 96° sugar (in kg per metric ton of cane —KS/T) from first-ratoon cane on Lauderhill muck, Torry muck, and Malabar sand.

	Mean yield by soil type, farm, and sampling date			
	Lauderhill muck	Torry muck	Malabar sand	
Clone	**Okeelanta 11/21/01**	**Eastgate 2/20/02**	**Hilliard 12/20/01**	**Mean yield, all farms**
CP 95-1376	124.8	136.9	144.0	135.2
CP 95-1726	124.6	135.4	143.8	134.6
CP 95-1446	121.7	130.0	139.3	130.3
CP 95-1039	119.6	134.1	136.4	130.0
CP 95-1429	117.7	129.8	136.4	128.0
CP 94-2203	118.7	128.9	135.8	127.8
CP 95-1569	121.4	126.7	133.0	127.0
CP 95-1570	116.1	127.1	135.6	126.2
CP 70-1133	120.8	121.6	136.0	126.1
CP 95-1834	116.2	126.6	133.8	125.5
CP 95-1712	113.2	126.2	136.4	125.3
CP 95-1913	105.9	120.2	135.6	120.6
Mean	118.4	128.6	137.2	128.1
LSD* (p=0.1)	4.7	3.7	7.5	3.9
CV † (%)	4.7	3.4	6.6	5.2

†LSD for location means =2.8 KS/T at *p* = 0.10.
‡CV = coefficient of variation.

Table 13. Yields of cane (in metric tons per ha-TC/H) from second-ratoon cane on Dania muck, Lauderhill muck, Pahokee muck, Tierra Ceia muck, and Pompano fine sand.

	Mean yield by soil type, farm, and sampling date								
	Dania muck		Lauderhill muck	Pahokee muck		Tierra Ceia muck	Pompano Fine sand		
Clone	Wedgworth 10/29/01	Duda 12/27/01	SFI 10/17/01	Okeelanta 10/23/01	Knight 11/4/01	Osceola 10/30/01	Lykes Bros. 10/24/01	Stability*	Mean yield, all farms
CP 95-1569	158.81	155.12	141.25	158.88	163.32	179.32	62.58	1606.68	145.61
CP 95-1712	154.17	194.23	134.03	137.55	168.27	146.56	74.56	3972.07	144.20
CP 95-1570	135.73	142.38	142.07	169.52	141.17	136.92	50.19	845.50	131.14
CP 95-1039	125.16	131.01	128.99	129.64	157.73	146.31	56.15	1672.08	125.00
CP 70-1133	145.10	116.79	135.74	151.03	123.73	125.10	56.29	1839.14	121.97
CP 95-1446	131.41	135.49	134.68	149.43	111.80	143.79	39.78	928.65	120.91
CP 94-2203	125.55	157.21	115.87	134.17	114.11	123.70	58.63	1152.72	118.47
CP 95-1913	101.56	140.02	131.64	132.32	139.61	131.03	42.53	982.83	116.96
CP 95-1429	80.93	114.98	106.39	157.36	104.97	116.57	59.12	3449.55	105.76
CP 95-1726	99.33	150.87	103.11	115.20	108.62	119.89	36.14	1468.20	104.74
CP 95-1834	77.47	106.57	105.51	114.49	65.13	100.18	37.20	2119.65	86.65
CP 95-1376	91.29	75.95	104.68	106.49	83.96	108.35	20.08	1520.86	84.40
Mean	118.88	135.05	123.66	138.01	123.53	131.48	49.44	1796.49	117.15
LSD* (p=0.1)	15.44	24.05	17.31	20.15	20.37	16.95	14.23		13.36
CV † (%)	15.61	21.39	16.81	17.54	19.81	15.48	34.57		19.09

*Stability for each clone is calculated at *p*=0.10 by Shukla's stability-variance parameter.
†LSD for location means of cane yield =8.64 TC/H at *p*=0.10.
‡CV = coefficient of variation.

Table 14. Yields of theoretical recoverable 96° sugar (in kg per metric ton of cane —KS/T) from second-ratoon cane on Dania muck, Lauderhill muck, Pahokee muck, Tierra Ceia muck, and Pompano fine sand.

	Mean yield by soil type, farm, and sampling date								
	Dania muck		Lauderhill muck	Pahokee muck		Tierra Ceia muck	Pompano Fine sand		
Clone	**Wedgworth 10/29/01**	**Duda 12/27/01**	**SFI 10/17/01**	**Okeelanta 10/23/01**	**Knight 11/04/01**	**Osceola 10/30/01**	**Lykes Bros. 10/24/01**	**Stability***	**Mean yield, all farms**
CP 95-1446	127.4	123.2	132.0	129.3	128.5	133.5	114.7	126.9	126.9
CP 95-1726	123.9	129.0	127.9	125.9	128.7	124.0	114.4	65.0	124.8
CP 95-1039	124.0	121.1	127.2	120.4	118.3	122.7	118.9	83.7	121.8
CP 70-1133	123.4	113.6	130.4	114.6	121.7	125.4	107.5	194.2	119.5
CP 95-1376	119.0	125.3	124.6	116.6	124.3	118.0	108.5	71.9	119.5
CP 95-1429	122.5	126.4	127.3	112.0	119.4	118.4	106.8	137.6	119.0
CP 95-1569	115.8	115.2	121.7	117.7	119.2	125.4	113.8	114.9	118.4
CP 95-1570	118.7	120.0	122.3	115.9	117.8	125.8	105.9	67.7	118.1
CP 95-1834	113.4	121.3	121.9	115.2	114.8	115.9	116.4	164.5	117.0
CP 95-1712	112.8	111.7	119.4	109.7	116.1	121.5	113.9	167.1	115.0
CP 94-2203	113.3	118.8	121.1	112.3	115.0	110.6	99.3	112.7	112.9
CP 95-1913	113.8	109.2	105.9	97.9	108.2	100.7	97.2	234.4	104.7
Mean	119.0	119.6	123.5	115.6	119.3	120.2	109.8	128.4	118.1
LSD* (p=0.1)	7.0	5.0	9.3	7.2	7.8	7.4	8.6		3.6
CV† (%)	7.1	5.0	9.1	7.5	7.8	7.4	9.4		7.7

*Stability for each clone is calculated at *p*=0.10 by Shukla's stability-variance parameter.
†LSD for location means of sugar yield = 2.9 KS/T at *p*=0.10.
‡CV = coefficient of variation.

Table 15. Yields of theoretical recoverable 96° sugar (in metric tons per ha—TS/H) from second-ratoon cane on Dania muck, Lauderhill muck, Pahokee muck, Tierra Ceia muck, and Pompano fine sand.

	Mean yield by soil type, farm, and sampling date								
	Dania muck		Lauderhill muck	Pahokee muck		Tierra Ceia muck	Pompano Fine sand		
Clone	Wedgworth 10/29/01	Duda 12/27/01	SFI 10/17/01	Okeelanta 10/23/01	Knight 11/04/01	Osceola 10/30/01	Lykes Bros. 10/24/01	Stability*	Mean yield, all farms
CP 95-1569	18.248	17.722	17.091	18.655	19.366	22.406	7.324	29.703	17.259
CP 95-1712	17.426	21.693	16.055	15.182	19.536	17.795	8.499	45.016	16.598
CP 95-1570	16.117	17.110	17.346	19.489	16.758	17.264	5.305	9.414	15.627
CP 95-1446	16.631	16.724	17.815	19.374	14.318	19.299	4.528	28.685	15.527
CP 95-1039	15.569	15.848	16.388	15.608	18.578	17.850	6.687	16.645	15.218
CP 70-1133	17.924	13.222	17.736	17.323	15.066	15.697	6.064	39.596	14.719
CP 94-2203	14.225	18.574	13.998	14.987	13.121	13.630	5.914	21.806	13.493
CP 95-1726	12.349	19.430	13.108	14.505	14.063	14.911	4.140	30.649	13.215
CP 95-1429	9.858	14.662	13.435	17.661	12.565	13.734	6.234	35.703	12.593
CP 95-1913	11.581	15.337	14.175	13.019	15.255	13.193	4.105	12.452	12.381
CP 95-1834	8.823	12.926	12.873	13.185	7.518	11.681	4.330	36.869	10.191
CP 95-1376	10.882	9.439	13.051	12.443	10.456	12.719	2.079	16.062	10.152
Mean	14.136	16.057	15.256	15.952	14.717	15.848	5.434	26.883	13.914
LSD* (p=0.1)	2.035	2.908	2.403	2.488	2.605	2.252	1.644		1.634
CV† (%)	17.295	21.755	18.923	18.734	21.261	17.070	36.353		20.407

*Stability for each clone is calculated at *p*=0.10 by Shukla's stability-variance parameter.
†LSD for location means of sugar yield = 1.108 TS/H at *p*=0.10.
‡CV = coefficient of variation.

Table 16. Yields of cane and of theoretical recoverable 96° sugar (in metric tons per ha—TC/H and TS/H) from second-ratoon cane on Pahokee muck, Torry muck, and Malabar sand.

	Cane yield by soil type, farm, and sampling date				Sugar yield by soil type, farm and sampling date			
	Pahokee muck	Torry muck	Malabar sand		Pahokee muck	Torry muck	Malabar sand	
Clone	Okeelanta 10/30/01	Eastgate 2/21/02	Hilliard 10/22/01	Mean yield, all farms	Okeelanta 10/30/01	Eastgate 2/21/02	Hilliard 10/22/01	Mean yield, all farms
CP 94-2095	135.30	152.17	84.48	123.98	17.360	19.918	9.652	15.643
CP 94-1100	148.57	149.46	90.40	129.48	17.704	17.834	10.479	15.339
CP 94-2059	139.46	102.54	124.05	122.02	16.402	13.035	13.425	14.287
CP 94-1528	84.98	167.45	104.04	118.82	10.173	20.240	11.242	13.885
CP 70-1133	114.87	146.15	88.61	116.54	14.404	16.885	9.780	13.690
CP 94-1200	138.32	96.38	101.47	112.06	17.575	11.192	11.781	13.516
CP 94-1447	116.81	113.76	113.11	114.56	13.480	14.058	12.376	13.305
CP 94-1292	90.98	148.83	79.90	106.57	10.844	18.045	9.310	12.733
CP 94-1340	100.42	111.88	85.11	99.14	13.139	14.146	8.962	12.082
CP 94-1607	132.17	93.32	89.72	105.07	15.760	10.598	9.183	11.847
CP 94-1855	102.64	74.29	67.62	81.52	13.825	9.773	7.457	10.352
CP 94-1628	114.37	57.75	86.10	86.07	14.351	7.074	8.844	10.090
Mean	118.24	117.83	92.88	109.65	14.585	14.400	10.208	13.064
LSD* (p=0.1)	20.40	23.60	17.59	34.53	2.766	3.023	2.219	2.680
CV† (%)	20.72	24.06	22.75	22.65	22.781	25.213	26.113	24.737

*LSD for location means of cane yield = 10.94 TC/H and of sugar yield =2.858 TS/H.
†CV = coefficient of variation.

Table 17. Theoretical recoverable yields of 96° sugar (in kg per metric ton of cane —KS/T) from second-ratoon cane on Pahokee muck, Malabar sand, and Torry muck.

	Mean yield by soil type, farm, and sampling date			
	Pahokee muck	Torry muck	Malabar sand	
Clone	Okeelanta 10/30/01	Eastgate 2/21/02	Hilliard 10/22/01	Mean yield, all farms
CP 94-1855	134.5	130.9	108.2	124.5
CP 94-2095	128.4	130.9	113.4	124.2
CP 94-1340	130.3	126.5	105.5	120.7
CP 94-1292	119.3	121.2	117.3	119.3
CP 94-1200	127.2	116.1	114.5	119.2
CP 94-1100	120.4	119.6	115.2	118.4
CP 70-1133	125.8	115.5	110.2	117.2
CP 94-1628	124.7	121.9	103.0	116.5
CP 94-2059	117.8	125.9	105.8	116.5
CP 94-1528	118.9	121.0	107.5	115.8
CP 94-1447	115.3	123.5	108.5	115.8
CP 94-1607	117.9	112.7	101.8	110.8
Mean	123.4	122.1	109.2	118.2
LSD* (p=0.1)	7.3	5.7	9.2	7.0
CV † (%)	7.1	5.6	10.1	7.6

†LSD for location means =2.9 KS/T at *p* = 0.10.
‡CV = coefficient of variation.

Table 18. Rankings by CP series of damage to juice quality by cold temperatures.

CP 94 series*	Rank†	CP 95 series*	Rank†	CP 96 series §	Rank†	CP 97 series	Rank†
CP 70-1133	7	CP 70-1133	6	CP 70-1133	3	CP 70-1133	12
CP 94-1100	10	CP 94-2203 ‡	10	CP 72-2086	9	CP 72-2086	5
CP 94-1200	2	CP 95-1039	1	CP 96-1161	4	CP 97-1068	2
CP 94-1292	5	CP 95-1376	12	CP 96-1171	13	CP 97-1164	10
CP 94-1340	3	CP 95-1429	9	CP 96-1252	7	CP 97-1362	4
CP 94-1447	12	CP 95-1446	3	CP 96-1253	1	CP 97-1387	3
CP 94-1528	4	CP 95-1569	8	CP 96-1288	10	CP 97-1777	15
CP 94-1607	6	CP 95-1570	7	CP 96-1290	12	CP 97-1804	14
CP 94-1628	8	CP 95-1712	2	CP 96-1300	2	CP 97-1850	1
CP 94-1855	11	CP 95-1726	5	CP 96-1350	5	CP 97-1928	11
CP 94-2059	1	CP 95-1834	4	CP 96-1602	11	CP 97-1944	6
CP 94-2095	9	CP 95-1913	11	CP 96-1686	8	CP 97-1979	16
				CP 96-1865	6	CP 97-1989	7
						CP 97-1994	13
						CP 97-2068	9
						CP 97-2103	8

*CP 94 Series and CP 95 Series cold tolerance rankings are from the 2000-2001 harvest season.
†The lower the numerical ranking, the better the cold tolerance.
‡CP 94-2203 was tested with the clones in the CP 95 series.
§CP 96 Series cold tolerance rankings are an average of rankings from the 2000-2001 harvest season and the 2001-2002 harvest season. Clones with the same average rank were differentiated by juice purity.

Table 19. Dates of stalk counts at 10 plant-cane, 10 first-ratoon, and 10 second-ratoon experiments

	Crop		
Location	Plant cane	First ratoon	Second ratoon
Duda	7/13/01	7/16/01	7/26/01
Eastgate	6/25/01	8/22/01	8/23/01
Hilliard	6/26/01	9/12/01	9/10/01
Knight	8/14/01	8/15/01	8/17/01
Lykes	7/09/01	8/01/01	8/28/01
Okeelanta	8/10/01	8/09/01	9/12/01
Okeelanta (successive)	8/07/01	8/08/01	9/13/01
SFI	8/24/01	8/29/01	9/07/01
Osceola	7/17/01	7/25/01	7/23/01
Wedgworth	7/31/01	8/03/01	8/06/01